

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHARLES W. BARTGES, GERALD D. SCOTT,
THOMAS J. KLEMP, M. ELISE HYLAND, JAMES A. BROCK,
and COLLEEN SPILLARD

Appeal No. 1996-4176
Application 08/287,915¹

ON BRIEF

Before WARREN, OWENS, and LIEBERMAN, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed August 9, 1994. According to appellants, this application is a continuation-in-part of Application No. 08/034,090, filed March 22, 1993, now abandoned.

Appeal No. 1996-4176
Application No. 08/287,915

This is an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1 through 31 and 33 through 37 which are all of the claims remaining in the application.

THE INVENTION

Appellants' invention is directed to a lead-free aluminum alloy, products prepared therefrom, and a method for manufacturing the alloy products. The alloy consists essentially of aluminum, copper, bismuth and tin in specific quantities. Iron, silicon and zinc may be optionally present in limited quantities.

THE CLAIMS

Claims 1 and 8 are illustrative of appellants' invention and are reproduced below.

1. A substantially lead-free 2000 Series aluminum alloy consisting essentially of: about 4-5.75 wt.% copper, about 0.2-0.9 wt.% bismuth, about 0.12-1.0 wt.% tin, the ratio of bismuth to tin ranging from 0.8:1 to 5:1, up to about 0.7 wt.% iron, up to about 0.4 wt.% silicon, up to about 0.3 wt.% zinc, the balance essentially aluminum with incidental elements and impurities.

8. A substantially lead-free, cadmium-free and thallium-free, aluminum-based alloy having good combinations of tool wear and tool life properties, said alloy consisting essentially of about 4-5.75 wt.% copper, about 0.2-0.9 wt.% bismuth, about 0.12-1.0 wt.% tin, the ratio of bismuth to tin ranging from 0.8:1 to 5:1, up to about 0.7 wt.% iron, up to about 0.4 wt.% silicon and up to about 0.3 wt.% zinc.

Appeal No. 1996-4176
Application No. 08/287,915

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references.²

Kempf et al. (Kempf)	2,076,568	Apr. 13, 1937
Japan Patent (Japan '044)	62-74044	Apr. 4, 1987

THE REJECTIONS

Claims 1 through 31, and 33 through 37 stand rejected under 35 U.S.C. § 103 as unpatentable over the admitted prior art in view of Kempf.

Claims 8 through 12 and 33 through 37 stand rejected under 35 U.S.C. § 103 as unpatentable over Japan ('044).

OPINION

We have carefully considered all of the arguments advanced by appellants and the examiner. We agree with appellants that the aforementioned rejection over the admitted prior art in view of Kempf is not well founded. Accordingly,

² We refer in our decision to the translation of Japan ('044) translated by the Ralph McElroy Translation Company for the United States Patent and Trademark Office in October 1996.

Appeal No. 1996-4176
Application No. 08/287,915

we will not sustain that rejection. We agree with the examiner that the rejection over Japan('044) is well founded. Accordingly, we will sustain the examiner's rejection over Japan('044) for essentially those reasons expressed in the Answer, and we add the following primarily for emphasis.

The § 103 Rejection Over The Admitted Prior Art In View Of Kempf

"[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a prima facie case of unpatentability." See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The examiner relies upon a combination of the admitted state of the prior art and Kempf to teach the claimed subject matter of appellants.

Both the admitted prior art and Kempf disclose an aluminum alloy. The admitted prior art directed to the "2011" aluminum alloy discloses an alloy containing aluminum, about 5-6 wt.% Cu, up to about 0.3 wt.% Zn, up to about 0.7 wt.% Fe, up to about 0.4 wt.% Si, about 0.2-0.6 wt.% Bi and about 0.2-0.6 wt.% Pb. See Specification, page 2. The alloy differs

Appeal No. 1996-4176
Application No. 08/287,915

from the claimed subject matter in the absence of tin. It further differs from the claimed subject matter in the presence of lead as set forth *supra*.

The examiner relies upon the teaching of Kempf for both the omission of the lead component and the presence of tin. Kempf discloses that aluminum alloys may be machined when two or more of the elements, lead, tin, thallium, cadmium or bismuth are present in the aluminum alloy. See column 2, lines 9-12. The examiner further relies upon the disclosure of Kempf at page 1, column 2, line 54 through, page 2, column 1, line 5, that,

[T]he total amount of free machining elements should not be less than about 0.05 per cent since below this amount there is scarcely any advantageous effect. We have determined that a maximum limit of about 6 per cent total of two or more of the free machining elements is sufficient for satisfactory commercial results...

It is the examiner's position that inasmuch as Kempf discloses the combination of two or more of the "free machining" elements selected from the group composed of lead, tin, thallium, cadmium and bismuth, it would have been obvious to the person having ordinary skill in the art to omit the presence of lead and include the presence of tin. See Answer,

page 5. It is further reasoned by the examiner that since Kempf discloses that the five machining elements may be used in amounts overlapping the alloy ranges of the claimed subject matter, the claimed subject matter is thereby rendered obvious to the person having ordinary skill in the art. Accordingly, the examiner submits that the teachings of the admitted prior art in view of Kempf are sufficient to establish a *prima facie* case of obviousness. We disagree.

The examiner has presented no rationale as to why one having knowledge of the admitted prior art and Kempf would choose to include tin and exclude lead. Nor has any rationale been proposed why the inclusion of tin should be within the narrow range set forth by appellants in the claimed subject matter. See In re Sebek, 465 F.2d 904, 907, 175 USPQ 93, 95 (CCPA 1972).

Furthermore, the examiner must show reasons that the skilled artisan, confronted with the same problem as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. We determine that there is no reason, suggestion, or motivation to combine the references in the manner proposed by the

Appeal No. 1996-4176
Application No. 08/287,915

examiner. Accordingly, the examiner has not established a prima facie case of obviousness. See In re Rouffet, 149 F.3d 1350, 1357-1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

The § 103 Rejection Over Japan ('044)

As an initial matter, appellants submit that the claims do not stand or fall together. Appellants' argument on behalf of separate consideration of each claim is limited to a statement that separate arguments for patentability exists with respect to four groups of claims. See Brief, pages 3-4. The subsequent portion of the Brief, directed to the rejection of claims 8 through 12 and 33 through 37 over Japan ('044), does not contain any reasons why appellants consider the rejected claims to be separately patentable. See Brief, page 6. Based on the above considerations, we shall treat the claims of the above rejection as standing or falling together. We select claim 8 as representative of appellants' invention and limit out consideration to said claim. See 37 CFR § 1.192 (c)(7)(1995).

Appellants argue that the term "consisting essentially of" in claim 8 excludes the presence of magnesium which is an indispensable component of the aluminum alloy disclosed in

Appeal No. 1996-4176
Application No. 08/287,915

Japan('044). Magnesium must be present in an amount of 0.2-0.8% by weight. See Brief, page 6.

It is well settled that the term "consisting essentially of" includes not only what is specifically recited in appellants' claim, but also any other materials which do not materially affect the basic and novel characteristics of the claimed composition. See PPG Indus., Inc. v. Guardian Indus. Corp., 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-1354 (Fed. Cir. 1998); In re Herz, 537 F.2d 549, 551-552, 190 USPQ 461, 463 (CCPA 1976); In re De Lajarte, 337 F.2d 870, 873-874, 143 USPQ 256, 258 (CCPA 1964); In re Janakirama-Rao, 317 F.2d 951, 954, 137 USPQ 893, 896 (CCPA 1963).

We find in appellants' specification that the basic and novel characteristics of the alloy are defined as substantially free of lead, cadmium and thallium. See specification, page 4 and 5. In contrast, we find that Japan('044) discloses on page 4, last paragraph through page 5, line 12, an alloy composed of 3.0-6.8 wt% Cu, 0.05-1.0 wt% Sn, 0.20-0.80 wt% Mg and the balance consisting essentially of aluminum. Other components may be present including Bi in amounts of 0.1-0.8%. We further find that any additional

Appeal No. 1996-4176
Application No. 08/287,915

component contemplated either is optionally present or may be present in amounts less than that defined by appellants as "substantially free." See Specification, page 5.

The issue before us is whether the claimed subject matter would have conveyed to one having ordinary skill in the art that magnesium was excluded by the language "consisting essentially of." We conclude that it was not. Our conclusion results from interpretation of the claimed subject matter and supporting language in the specification *supra*. During patent prosecution, claims are to be given their broadest reasonable interpretation consistent with the specification, and the claim language is to be read in view of the specification as it would be interpreted by one of ordinary skill in the art. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); In re Sneed, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983); In re Okuzawa, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976).

Our construction of the claimed subject matter is based upon our findings that appellants expressly excluded those components regarded as materially affecting the composition by inserting the language, "lead-free, cadmium-free and thallium-

Appeal No. 1996-4176
Application No. 08/287,915

free." If appellants had intended to exclude magnesium, they would have inserted the language "magnesium-free." As that language is absent from both the specification and claimed subject matter, we conclude that the language "consisting essentially of" does not exclude the presence of magnesium. Based upon the above considerations and findings, we conclude that the examiner has established a prima facie case of obviousness against each of the claims rejected over Japan('044).

DECISION

The rejection of claims 1 through 31, and 33 through 37 under 35 U.S.C. § 103 as unpatentable over the admitted prior art in view of Kempf is reversed.

The rejection of claims 8 through 12 and 33 through 37 under 35 U.S.C. § 103 as unpatentable over Japan ('044) is affirmed.

The decision of the examiner is Affirmed-in-Part.

Appeal No. 1996-4176
Application No. 08/287,915

No time period for taking any subsequent action in
connection with this appeal may be extended under
37 CFR § 1.136(a).

AFFIRMED-IN-PART

	Charles F. Warren)	
	Administrative Patent Judge)	
)	
)	
)	
	Terry J. Owens)	BOARD OF
PATENT	Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
	Paul Lieberman)	
	Administrative Patent Judge)	

tdc

Appeal No. 1996-4176
Application No. 08/287,915

Gary P. Topolosky
Aluminum Company of America
Alcoa Technical Center
100 Technical Drive
Alcoa Center, PA 15069-0001